

Appl. No. 10/735,373  
Amdt. Dated 8 December 2005  
Reply to Final Office Action of 12 October 2005

Attorney Docket No. 26.0263 US

Page 2 of 6

**This listing of claims will replace all prior version, and listings, of claims in the application:**

**Listing of Claims:**

1. (currently amended) A method of ~~preparing~~ calibrating one or more individual acoustic receivers mounted to an acoustic tool having at least one monopole source for borehole logging comprising:  
inserting the tool into an acoustic chamber;  
generating acoustic waves in the acoustic chamber;  
receiving acoustic waves with the receivers to calibrate ~~calibrating a plurality of acoustic receivers with one or more of the plurality of acoustic receivers mounted to the acoustic tool.~~
2. (currently amended) The method of claim 1, further comprising:  
~~inserting the tool into an acoustic chamber;~~  
~~generating acoustic waves in the acoustic chamber;~~  
averaging waveforms received by each of ~~the~~ a plurality of acoustic receivers to create an average waveform associated with each of the plurality of acoustic receivers;  
assigning one average waveform as a reference waveform;  
calculating compensation factors for one or more of the plurality of receivers.
3. (original) The method of claim 2, wherein the calculating comprising measuring differences between the reference waveform and one or more of the remaining average waveforms.
4. (original) The method of claim 2, wherein the calculating comprises computing three gain and three time delay compensation factors for each of the plurality of receivers, one for each of a low, mid, and high frequency range.

Appl. No. 10/735,373  
Amdt. Dated 8 December 2005  
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Attorney Docket No. 26.0263 US

Page 3 of 6

5. (original) The method of claim 2, wherein the generating further comprises generating acoustic waves in each of at least two different axially rotated positions.

6. (original) The method of claim 5, wherein the at least two different axially rotated positions comprise four positions offset by approximately ninety degrees.

7. (previously presented) The method of claim 2, further comprising calculating compensation factors for each of the plurality of receivers except for a reference receiver

8. (currently amended) An  $\Delta$  system for calibrating one or more individual acoustic receivers mounted on an acoustic tool calibration system comprising:

~~an acoustic tool comprising~~ at least one monopole source and a plurality of receivers mounted ~~thereon~~ on the acoustic tool;

an acoustic chamber receptive of the acoustic tool;

a plurality of spacers arranged about the acoustic tool to support the acoustic tool substantially concentric with the acoustic chamber;

~~a computer in communication with the acoustic tool being configured to:~~

~~— a set of instructions executable by the computer that, when executed, automatically calibrates~~ calibrate each of the plurality of receivers while the receivers are mounted on the acoustic tool.

9. (previously presented) The system of claim 8, further comprising multiple receiver stations spaced axially along the acoustic tool, wherein each of the multiple receiver stations comprises a plurality of azimuthally arranged receivers.

10. (previously presented) The system of claim 8, wherein the acoustic chamber is pressurized to at least 300 psi.

Appl. No. 10/735,373

Attorney Docket No. 26.0263 US

Amdt. Dated 8 December 2005

Reply to Final Office Action of 12 October 2005

Page 4 of 6

11. (currently amended) The system of claim 8, wherein the acoustic tool comprises an upper and a lower monopole source with the receivers located between the upper and lower monopole source.